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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/428,322	10/28/1999	MARY LAFUZE COMER	RCA-89541	4518

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EXAMINER

BUGG, GEORGE A

ART UNIT

PAPER NUMBER

2613

DATE MAILED: 04/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/428,322	COMER ET AL.
	Examiner George A Bugg	Art Unit 2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 06 February 2003.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-24 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-5, 8 and 10-24 is/are rejected.

7) Claim(s) 6, 7 and 9 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. _____.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____.
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.	6) <input type="checkbox"/> Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 2/6/03 have been fully considered but they are not persuasive. The Examiner has read Applicants arguments, but must disagree, and maintain the rejection for the reasons to follow.

With regard to Applicants arguments, the Examiner must stress the amount of knowledge one must possess to be of ordinary skill, with respect to encoders/decoders and the MPEG environment. The complexity of the MPEG standard requires a vast and diverse knowledge, and it is the position of the Examiner that Applicants invention is obvious in view of the cited references, as well as the working knowledge of the MPEG standard.

Applicant argues that a third resolution which is lower than first, and higher than the second resolution, is not taught by Boyce, only that the 2nd and 3rd resolutions may be equal to one another. It is the position of the Examiner that PIP may be of many desired and/or selected resolutions, and the size requirements, as claimed, are inherently taught by Boyce and are obvious embodiments. A multiplicity of PIP sizes may be achieved with what is selected or desired by the viewer, and the size of the PIP is directly proportional to the resolution. Furthermore, PIP decoders only process what is necessary to display the desired size of picture. Smaller pictures require less bandwidth than large pictures do, and bandwidth is also directly proportional to

resolution. Therefore, a third resolution, which is lower than the first, and greater than the second, is well known. It is further noted that motion compensation is also limited to the overall size of the picture, and Boyce, in fact, does utilize motion compensation with respect to each PIP selected.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5, 8, 10, and 11-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No 5,614,957 to Boyce et al.

3. As for claims 1, 11, and 18, Figure 4, of Boyce, shows a primary decoder (401). The signals exiting Elements 401, 402, and 403, of Figure 4, will be referred to as resolutions 1, 2, and 3 respectively. In column 18, lines 20-25, the decoder 401 is referred to as a full resolution decoder, and will output an image of resolution 1. Column 18, Lines 48-53, discloses that the reduced resolution decoder (402) processes only the upper left block of DCT coefficients. This upper left block of DCT coefficients is equivalent to a selected sub-set of frequency domain coefficients, as claimed. Once

decoding is complete, a reduced resolution image is displayed, representative of resolution 2. Column 19, Lines 6-12 disclose a motion compensation circuit used in conjunction with the PIP decoder of Figure 4. Furthermore, Figure 4 shows an additional reduced resolution decoder (403). The image outputted by 403, will be representative of resolution 3, which is less than that of resolution 1. While Boyce does not specifically teach resolution 3 being greater than resolution 2, Boyce does teach that the PIP arrangement of Figure 4 is not limited to a specific degree of resolution, only that the secondary decoders 402 and 403, be reduced resolution decoders, as compared to 401 (Column 19, Lines 23-30). Therefore, the actual degree of resolution, with respect to resolution 3, can be less than resolution 1, while being greater than resolution 2. It would have been obvious to one of ordinary skill in the art to utilize decoders of varying resolution to achieve greater PIP versatility.

1. Regarding claims 2 and 10, Boyce discloses that secondary pictures (Column 19, Lines 13-20) can be $\frac{1}{4}$ or $\frac{1}{2}$ resolution of the primary picture.
2. As for claims 3, 4, 8, and 12 Boyce teaches (Abstract) HDTV/SDTV video decoder, which are synonymous with progressive and inter-laced images.
3. As for claim 5, see Figures 1 and 2 of Boyce.
4. As for claim 13 and 21, up-sampling is shown in the motion compensation circuit of Figures 1 and 2.
5. With regard to claims 14 and 15, Boyce teaches Column 18, Lines 48-53, that the reduced resolution decoder (402) processes only the upper left block of DCT

coefficients. This upper left block of DCT coefficients is equivalent to a selected sub-set of spatially distributed pixels, as claimed, based on PIP picture size.

6. The embodiments of claims 16 and 17 are well known in the art. (Official Notice)

7. As for claims 19 and 20, P frames would be processed exclusively of I and B frames, because they contain the motion information, however all frames are processed.

8. As for claims 22-24, Boyce shows down-sampling up-sampled data in the motion compensation circuit of Figures 1 and 2. Inherently, the residual data of claim 24, is present as a result of down-sampling up-sampled data.

Allowable Subject Matter

9. Claims 6, 7, and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George A Bugg whose telephone number is (703) 305-2329. The examiner can normally be reached on Monday-Thursday 7:30 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher S Kelley can be reached on (703) 305-4856. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-5359.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4750.

George A Bugg
Examiner
Art Unit 2613

GAB

April 15, 2003


CHRIS KELLEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600